

Amendments to the Specification

Please replace the paragraph beginning on page 6, line 18, and starting with “In order to determine ...” with the following amended paragraph:

In order to determine a K plane 51 a function

$$s_1(s, s_2) = \begin{cases} \frac{ms_2 + (n-m)s}{n}, & s \leq s_2 < s + 2\pi \\ \frac{ms + (n-m)s_2}{n}, & s > s_2 > s - 2\pi \end{cases}$$

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(3)

is introduced, which function is dependent on non-negative, integer values n and m , where $n > m$. In this embodiment $n=2$ and $m=1$. However, other values n, m may also be chosen. The equation (1) would nevertheless remain exact, and only the position of the K planes 51 would change. Furthermore, the vector function

$$\mathbf{u}(s, s_2) = \begin{cases} \frac{[\mathbf{y}(s_1(s, s_2)) - \mathbf{y}(s)] \times [\mathbf{y}(s_2) - \mathbf{y}(s)]}{\|[\mathbf{y}(s_1(s, s_2)) - \mathbf{y}(s)] \times [\mathbf{y}(s_2) - \mathbf{y}(s)]\|} \cdot \text{sgn}(s_2 - s), & 0 < |s_2 - s| < 2\pi \\ \frac{\dot{\mathbf{y}}(s) \times \ddot{\mathbf{y}}(s)}{\|\dot{\mathbf{y}}(s) \times \ddot{\mathbf{y}}(s)\|}, & s_2 = s \end{cases}$$

(4)

and the unity vector

$$\beta(s, \mathbf{x}) = \frac{\mathbf{x} - \mathbf{y}(s)}{|\mathbf{x} - \mathbf{y}(s)|} \quad (5)$$

are defined. The vector β then points from the radiation source position $\mathbf{y}(s)$ to the position \mathbf{x} . In order to determine the K plane, a value $s_2 \in I_{PI(\mathbf{x})}$ is chosen so that $\mathbf{y}(s)$, $\mathbf{y}(s_1(s, s_2))$, $\mathbf{y}(s_2)$ and \mathbf{x} are situated in one plane. This plane is referred to as the K plane 51 and the line of intersection between the K plane 51 and the detector surface is referred to as the K line 53. Fig. 6 shows a fan-like part of a K plane. The edges of the fan meet at the location of the radiation source. This definition of the K plane 51 is equivalent to solution of the equation

$$(\mathbf{x} - \mathbf{y}(s)) \cdot \mathbf{u}(s, s_2) = 0, \quad s_2 \in I_{PI(\mathbf{x})} \quad (6)$$

according to s_2 . Thus, \mathbf{u} is thus the normal vector of the K plane 51. In order to determine the vector function $\Theta(s, \mathbf{x}, \gamma)$ the vector

$$\mathbf{e}(s, \mathbf{x}) = \cos \gamma \cdot \beta(s, \mathbf{x}) + \sin \gamma \cdot \mathbf{u}(s, \mathbf{x}) \quad (7)$$

is defined. Using the definition for β and \mathbf{u} , the vector function $\Theta(s, \mathbf{x}, \gamma)$ can be expressed as follows:

$$\Theta(s, \mathbf{x}, \gamma) = \cos \gamma \cdot \beta(s, \mathbf{x}) + \sin \gamma \cdot \mathbf{u}(s, \mathbf{x}) \quad (8)$$

Because both vectors β and \mathbf{u} are oriented perpendicularly to \mathbf{u} , the K angle γ indicates the direction of the vector Θ and hence the direction of a ray within a K plane.